NOTES.

SCIENCE is represented in the list of New Year's honours by Sir William Turner, F.R.S., professor of anatomy in the University of Edinburgh, who has been made a K.C.B. Other names familiar in various branches of the scientific world are :—Dr. Thomas Barlow, physician extraordinary to the Queen, and Dr. W. S. Church, who have each received the dignity of a baronetcy ; Mr. Hiram Maxim, the well-known inventor, has been knighted ; Mr. F. Victor Dickins, Registrar to the University of London, and Lieut.-Colonel G. T. Plunkett, director of the Department of Science and Art, Dublin, have been appointed to the Order of the Bath (C.B.) ; and Captain F. E. Younghusband, known for his journeys in China and India, has been granted the Kaiser-i-Hind medal.

THE *Times* of Tuesday, December 25, contains an article on the dispute between the London United Tramways Company and the managers of Kew Observatory. It is written very much from the point of view of the Tramways Company, and contains several misstatements to which Prof. Rücker calls attention in a subsequent letter. The question, as Prof. Rücker rightly points out, is not whether it is possible to obtain "perfect" insulation, but whether the insulation, which every one knows can be obtained, should not be insisted upon when the interests of so valuable an institution as Kew Observatory may be preserved by doing so. The engineers of the Tramways Company originally proposed to limit the maximum potential difference between the rails and earth to one-fifth of a volt, a condition which was accepted by Kew, but they have since found that, by the system they proposed to adopt, they are unable to keep within this limit. There are, however, other systems which could be used, and it rests with the Board of Trade to decide whether some other system should be adopted or not. It is to be hoped that the final decision will enforce everything being done that can be done to prevent interference with the very important magnetic work carried on at Kew, or, if protection is considered impossible, that adequate compensation will be insisted upon. Quite apart from the particular point at issue, it is an anachronism which ought to be remedied as quickly as possible that electrical engineers should be allowed to let their waste current flow into the soil. The evils of the system are apparent in many instances already ; they will become intolerable when electric traction is developed on a large scale in London.

AT the fourth International Zoological Congress, held at Cambridge in 1898, it was decided that the fifth Congress, in 1901, should be held in Germany ; the selection of the town and president being left to the German Zoological Society, acting in conjunction with the Permanent Committee of the Zoological Congress at Paris. Announcement has now been made that the meeting place will be Berlin, on Aug. 12-16, and the president Prof. K. Moebius, director of the zoological collection of the Natural History Museum, with Prof. F. E. Schulze, director of the Zoological Institute, as vice-president. The secretaries of the Congress will be Herr P. Matschie, Dr. M. Meissner and Dr. R. Hartmeyer. The treasurers will be Herr H. Schalow and Herr Otto Stutzbach. Arrangements as to meetings and papers will be in charge of Prof. L. H. Plate, apartments and receptions will be under the care of Dr. L. Heck, and the lighter pleasures of the meeting will be managed by Dr. O. Jaekel. The meetings will be held in the Natural History Museum and neighbouring rooms of the University. Among the subjects to be brought before the Congress are the following :—Fossil remains of man, Prof. Branco (Berlin) ; vitalism and mechanism, Prof. Bütschli (Heidelberg) ; theories of fertilisation, Prof. Yves Delage (Paris) ; the psychological attributes of ants, Prof. A. Forel (Morges) ; the malarial problem from a zoological point of view, Prof. Grassi (Rome) ; mimicry and natural selection, Prof. E. B. Poulton (Oxford). After the conclusion of the Congress an excursion will be made to Hamburg for the purpose of visiting the Natural History Museum and Zoological Garden there, and also to Heligoland. Communications concerning the Congress should be made to the president, 43, Invalidenstrasse, Berlin, N. 4. Admission to the Congress will be free to all zoologists and all friends of zoology.

IN connection with the remeasurement of the Peru arc of meridian by a French Commission, M. F. Gonnessiat, of the Lyons Observatory, has been appointed director of the Observatory at Quito for a period of five years.

THE committee of the U.S. House of Representatives in charge of the Bill to substitute, in 1903, the metric system of weights and measures for the common system in use, has reported in favour of the change, and there is reason to believe that the Bill will become a law.

IT has been found necessary to postpone the opening of the Exhibition of Modern Illustration in the Indian Section (Imperial Institute Road) of the Victoria and Albert Museum, from January 7 until January 14. The Exhibition will be open free every day, and will remain open about three months.

AT the annual meeting of the Geographical Association on January 9, at the College of Preceptors, Mr. Douglas W. Freshfield, president of the Association, will show a series of lantern slides illustrating his recent journey in the Sikhim and Nepalese Himalaya.

WE are informed that the inaugural meeting of the Birmingham Local Section of the Institution of Electrical Engineers will be held in the buildings of the Birmingham University at 8 p.m., on Wednesday, January 23. Dr. Oliver Lodge, the chairman of the Section, will then deliver his address. The president and secretary of the Institution have accepted an invitation to be present.

WE learn from *Science* that Mr. D. O. Mills, of New York, has promised the University of California about 24,000 dollars, to defray the expenses of a two years' astronomical expedition from the Lick Observatory to South America or Australia, with the object of studying, under good conditions, the movements of stars in the line of sight.

THE monthly record of anthropological science, which has just appeared under the title of *Man*, ought to prove an excellent recruiting agent for the Anthropological Institute, under the direction of which it is published. The first number contains several articles and reviews on anthropology understood in its widest sense, and provides all who are interested in the study of man with a *précis* of important contributions to various branches of the science. A coloured picture of a Buddhist wheel of life from Japan forms a frontispiece, and is described by Mr. N. W. Thomas.

THE death of Major Serpa Pinto, the African explorer, is announced from Lisbon. He was leader of an expedition organised by the Lisbon Geographical Society and the Geographical Commission of the Ministry of Marine, for the purpose of exploring the hydrographical conditions between the basin of the Congo and that of the Zambesi, and generally to explore the whole region between the provinces of Angola and Mozambique. The expedition started from Benguella in November, 1877, and reached Durban in 1879. Little new country was opened up by the journey, as Africa had previously been crossed by Livingstone and other explorers. His contributions to a knowledge of the hydrography of the country between the coast and the Kwando were, however, of importance, and he was able to describe the large tableland that characterises a considerable part of this region. The expedition was well supplied with scientific instruments, with which numerous observations that have been serviceable to the cartographer and the meteorologist were taken. The Royal Geographical Society awarded him their Founder's Medal for this journey. His travels from Mozambique in 1884, and into the Shiré country in 1889, were of political importance, but have no scientific value.

SIR HARRY JOHNSTON has sent to the Royal Geographical Society an account of his recent journeys in the Uganda Protectorate, and it is here abridged from the *Times*. He succeeded in making very interesting natural history collections in that part of the Congo Forest which stretches from the basin of the Ituri River to the vicinity of the Semliki. Many photographs were taken of the dwarfs, male and female, of their dances, implements and dwellings. Anthropological measurements were also made by Mr. Doggett, the collector accompanying the Special Commissioner's expedition. Other dwarfs were subsequently examined from the Mboga district, which is that outlying portion of the Uganda Protectorate which lies to the north-west of the Semliki River. It was found that (as other travellers relate) the dwarfs were of two types—black-skinned, with a good deal of stiff, curling black hair about the body, and red or yellow-skinned, with a tendency to redness in the hair of the head and yellowish-grey in the hair growing on the body. Some of the dwarfs, especially when young, have quite hairy bodies, and their women not infrequently have incipient whiskers. These Congo dwarfs no longer speak an original language of their own, but talk, in a slightly corrupted form, the language of the taller negroes in whose vicinity they dwell. Amongst physical features which specially distinguish them from their neighbours is the large size and flatness of the nose. This organ has scarcely any bridge, and the wings of the nose are very large. The dwarfs also have a very long upper lip, which is scarcely, if at all, erected. In many other points they exhibit ape-like features, but their intelligence is, as a rule, well developed, and though hideously ugly and often very ape-like in appearance, they are usually of a winning and cheerful disposition, while their dances are so frolicsome and gay and full of pretty movements as to distinguish them markedly in that respect from the average negro.

SIR H. JOHNSTON has ascertained that there exists in these Congo forests a remarkable species of horse or zebra not hitherto known or described. According to his observations, the gorilla as well as the chimpanzee exists in these Congo forests between the Ituri and the Aruwimi. He hopes to send home a specimen of the chimpanzee which is found in the western part of the Uganda Protectorate. Sir H. Johnston devoted three weeks to examining the upper part of Mount Ruwenzori. He and two of his companions ascended to a higher point, seemingly, than has yet been reached by any explorer. Beyond an altitude of 14,800 feet a succession of sheer walls of rock was found, the ascent of which was extremely difficult. Snow was found lying as low as 13,000 feet, and permanent snow was reached at 13,500 feet. A large botanical collection was made, and photographs were taken of the more remarkable forms of vegetation, which include two species of giant lobelia, a tree-heath grown to 50 feet, and the tree groundsel which was discovered by Sir H. Johnston in 1884 on the upper parts of Kilima-Njaro. Collections in zoology made on the mountain in this vicinity will probably result in at least one new species of monkey, a new hyrax, a new antelope, and a number of birds, reptiles and insects new to science.

DURING the past week this country has been visited by a series of severe storms, which have caused much damage to both life and property. On the morning of Thursday, December 27, the Daily Weather Report issued by the Meteorological Office showed that a "V" shaped depression lay over St. George's Channel, the distribution of barometric pressure being of a complex character, with high readings over both the north and south of Europe. During the day the depression moved eastwards across England, but was followed very closely by a new and much deeper disturbance. The centre of this storm passed across the northern parts of Ireland and England on December 27 and 28, and on the morning of the 29th the centre lay over Denmark, having travelled during some part of its course at about 23 miles an hour, while the velocity of the wind in the vortex reached over 80 miles an hour; at Greenwich the pressure anemometer registered 27 lbs. on the square foot in the afternoon of December 28. A further disturbance moved along our south coasts on the 30th and 31st, and occasioned northerly gales over a large part of England, during which some heavy falls of rain, amounting to 1—3 inches, were recorded in several parts of the country, resulting in disastrous floods.

THE report of the Meteorological Council for the year ending March 31, 1900, has recently been presented to Parliament. The principal changes during the year have been the appointment of Mr. W. N. Shaw as secretary, in succession to Mr. Scott, retired, and the appointment of Captain Campbell Hepworth, R.N.R., as marine superintendent, in place of Lieut. Baillie, deceased. The appendices contain (1) regulations for superannuation allowances to the established clerks, (2) correspondence referring to the continuation with the National Physical Laboratory of the relations hitherto subsisting between the Meteorological Office and Kew Observatory, and (3) further correspondence with H.M. Treasury and the Scottish Meteorological Society relating to the maintenance of the Ben Nevis observatories. A comparison of the evening weather forecasts (which appear in the morning newspapers) shows that the percentage of complete and partial success during the year amounted to 82. The success of the storm-warning telegrams issued to the sea coasts was even more gratifying, amounting to 91 per cent., while the warnings not justified by subsequent weather were only 4·8 per cent. The report contains an account of anemometer experiments made at Holyhead, and a note upon investigations in atmospheric electricity.

MANY years ago, a paper was published by H. Arons, dealing with the symmetry of crystals as deduced from their elastic potentials, in which it was shown that if a crystal possessed two planes of symmetry, then either the angle between the planes is 45°, 60°, or 90°, or every plane through their intersection is a plane of symmetry. In the *Atti dei Lincei*, ix., 10, Signor C. Viola now discusses the various forms of crystalline symmetry with reference to the so-called "law of rationality of the indices," and raises objections to this law. From considerations partly based on observation, partly on the theory of elasticity, Signor Viola gives a proof of the theorem that there are thirty-two different possible kinds of crystalline symmetry.

A METHOD of crystallising substances from albuminous solutions without the formation of a crust on the surface is described by Herr A. Wróblewski in the *Bulletin* of the Cracow Academy, viii., 1900. The method consists in confining the solution to be crystallised in a tube with a parchment bottom, and depends on the fact that evaporation takes place through the parchment although the surface exposed to the air shows no signs of moisture from the transpiration of the liquid. The apparatus which the author describes has enabled him to obtain crystals of albuminous substances of greater purity than those resulting from the use of Hoffmeister's method, and, moreover, it suggests several interesting experiments connected with osmotic phenomena.

IN his address on the future of anatomical teaching, delivered before the Middlesex Hospital Medical Society on October 18, and published in the December number of the Middlesex Hospital *Journal*, Prof. Alexander Macalister urges that much of the matter in our anatomical text-books might advantageously be omitted from what is taught to the over-burdened student. The essential thing for the future practitioner to learn is the position of the working parts of the human frame which affect his practice. In the case of the shoulder-girdle, for instance, he must know the precise shape of the articular surfaces, their extent of motion, where they are covered with muscle, and where the capsule is thinnest. But the minute description of the ligaments do not concern him. Neither need he know the relations of minute arteries in other parts of the body, or be taught the homology of, say, the human pterygoid bones. Not that what used to be called transcendental anatomy is decried by the professor. On the contrary, the importance of its study is extolled; but the ordinary medical student has not the time for it.

WE have received a paper by Messrs. D. S. Jordan and J. O. Snyder on fishes recently collected in Japan by Mr. Otaki and the U.S. steamer *Albatross*, published in the *Proceedings* of the U.S. Museum (vol. xxiii., pp. 335–380). Fourteen new species are described, several of which are referred to new generic types.

In the section of the *Papers* from the Harriman Alaska Expedition devoted to Diptera, Mr. D. W. Coquillet describes a considerable number of new forms, among them being a new genus —Ornithodes—of Tipulidæ. This most remarkable discovery is, however, the existence in Alaska of a species of Telmatogeton, a genus previously known only from St. Paul's Island in the Indian Ocean.

THE issue of the *Notes* from the Leyden Museum for January and April last (published in July and received a few days ago) opens with a communication from Mr. M. C. Piepers, in which the views advanced by him at the Cambridge Zoological Congress in regard to the evolution of colour in butterflies are defended against the criticisms of Miss Newbigin and others. The author urges that none save those who have made the morphology of the Lepidoptera their special study are capable of fully appreciating, much less of criticising, his views.

A SECOND article in the same issue, by Dr. F. A. Jentink, describes a remarkably coloured stoat in the Leyden Museum. After describing the gradual change from the brown summer to the white winter coat in the species and *vice versâ*, the author goes on to say that the example in question is striped in such a curiously symmetrical manner that it might well be regarded at first sight as representing an unknown species. The brown of the upper parts is locally interrupted by narrow bands of longer white hairs, which appear to be the remnants of the winter coat; and there are patches of white elsewhere—notably a ring dividing the black tip of the tail from the brown of the remainder of that appendage. The specimen was killed in Holland during the spring of 1869.

THE Geological Survey of Canada has published a useful general index to the reports of progress, 1863 to 1884. Since 1884 the successive annual reports have been separately indexed, but it is intended at a later date to prepare a general index to them. The volume before us, which contains full references to subjects, localities and authors, has been compiled by Mr. D. B. Dowling.

CRAGS of weathered granite in the Black Hills of South Dakota are described and pictured by Mr. E. O. Hovey (*Bull.* Geol. Soc. Amer., vol. xi). The granite is intrusive in the mica-schists of the region, but the schists have suffered most from erosion, so that the granite, which is intersected by numerous joints, stands up in places in sharp pyramidal and needle-like forms.

THE latest addition to Prof. Penck's *Geographische Abhandlungen* is a pamphlet on the three lakes of the Reschen-Scheideck, by Prof. Johann Müllner. The positions of the lakes, their supply areas, depths, surface levels, rainfall conditions and ice-covering, are dealt with in separate chapters, and besides the interest of its results the investigation forms another excellent example of the adequacy of the geomorphometric methods employed by the geographers of the Vienna school.

THE third number of the current volume of the *Zeitschrift der Gesellschaft für Erdkunde zu Berlin* is devoted to a review of the present state of knowledge of the geographical distribution of plants and animals, by Dr. Arnold Jacobi. The special problem dealt with is the position and form of biogeographical regions, and the bases on which such regions must be defined. A general map of animal distribution and special maps showing the distribution of the jay and the bullfinch accompany the paper.

THE November number of *La Géographie* contains the first part of a paper on the geography of the coast-region of the Landes, by M. Hautreux, well known for his work on the oceanography of the Bay of Biscay. M. Hautreux here discusses the wind records from a number of coast stations, with special reference to their influence on ocean currents and on the formation and movement of sand dunes. We note with satisfaction, from an announcement also in *La Géographie*, that the efforts of M. Hautreux during the last twenty years have borne fruit in the establishment of a "Société d'Océanographie du Golfe de Gascogne," to which we wish every success.

WE have received a copy of an official pamphlet on the currents of the Gulf of St. Lawrence, practically an abstract of the reports on surveys of tides and currents for the seasons 1894, 1895 and 1896. The information is arranged in a form likely to be specially useful to navigators; the surface currents in each locality are minutely described, and the causes of the general circulation in the Gulf are dealt with separately. One of the most important facts brought to light by the work of the survey is that no confirmation is forthcoming of the supposition that a current enters the Gulf by Belle Isle Strait and leaves it by Cabot Strait. The current flowing out by Cabot Strait apparently consists partly of water from the St. Lawrence and partly of water entering Cabot Strait itself on the eastern side.

THE November number of *Petermann's Mitteilungen* contains the third and last instalment of an important paper by Dr. L. Frobenius on the "Kulturformen" of Oceania. Dividing the region into four parts, in the west "Indonesia" or Farther India, in the south-east Australia, east Melanesia, and north-east Mikronesia, the author points out that there are three main lines extending from the first of these eastwards, a southern axis towards Australia, a central axis just skirting Australia, and a northern axis through the Mikronesian archipelago. To the civilisation of the southern axis the name "nigritic" is given, to that of the central axis "vormalaysian," and to that of the northern "malayo-asiatic." The paper is illustrated by an elaborate series of maps.

PROMPTITUDE of publication is now the distinguishing characteristic of the *Journal* of the Chemical Society. The January number of the journal contains the Rammelsberg Memorial Lecture (pp. 43) delivered by Prof. H. A. Miers, F.R.S., on December 13.

THE third volume of Prof. G. O. Sars's detailed "Account of the Crustacea of Norway" has been published by the Bergen Museum. It treats of the Cumacean group of Crustacea, which is but imperfectly known; and it will be of service, not only for the determination of Norwegian species, but also for the future investigation of the Cumacean fauna of other countries.

DURING January, the following popular science lectures will be delivered at the Royal Victoria Hall, Waterloo Road:—January 8, History of the Solar System, Mr. F. Womack; January 15, Sea Coasts of Britain, Prof. H. G. Seeley, F.R.S.; January 22, Waves and Oscillations Mr. F. W. Porter; January 29, Niagara Water Power Installation, Prof. Capper.

THE Bath Natural History and Antiquarian Field Club has sent us a copy of its *Proceedings* (vol. ix. No. 3), containing among other contributions, a reduced copy of an old map of the Parish of Walcot, made in 1740. Then the parish was a little country village, now it is a great suburb of Bath. The notes on this map, by the Rev. C. W. Shickle, are of sufficient interest to make one wish they had been more extensive.

WE have received the November number of the *Victorian Naturalist*, the journal and magazine of the Field Naturalists' Club of Victoria. It is illustrated by some good views of the Basalt columns of Sydenham, and contains a variety of notes on local natural history.

IN the last number of the *Berichte der Deutschen Chemischen Gesellschaft* (33, 3307) Herr E. Buchner describes new experiments the results of which must be regarded as strong evidence in favour of the view that the active agent in fermentation processes is of enzymic character. Quantities of yeast were dried in vacuo at temperatures from 35°—100° C, and then heated for several hours in a current of hydrogen at 100° and then at 110° C. After this treatment the yeast has no fermenting power, as was conclusively proved by observations of its action on wort, the observations extending over a period of three weeks. The sterile yeast was then ground up into a paste with sand, kieselguhr and 10 per cent. aqueous solution of glycerin, and the mass subjected to strong hydraulic pressure. The liquid pressed out from the paste was found to have strong fermenting action. In spite of the sterilisation and the loss involved in the extraction with aqueous glycerine, the fermenting power was found to be one-quarter to one-half that of the original yeast. These experiments do not conform to the hypothesis set up by the opponents of the enzyme theory, that the fermenting power of press yeast is due to living protoplasm, for the latter is certainly no longer present in the yeast after its subjection to the sterilising process described. The specific action of the enzyme zymase is therefore not dependent on the presence of the living cell, and in this respect zymase is perfectly analogous to the active enzyme of urea fermentation isolated by Miquel.

THE additions to the Zoological Society's Gardens during the past week include a Derbian Zonure (*Zonurus giganteus*) from South Africa, presented by Major J. W. Jerome; three Bengal Monitors (*Varanus bengalensis*), a Conical Eryx (*Eryx conicus*), an Indian Eryx (*Eryx johni*) from India, deposited; two Bar-tailed Pheasants (*Phasianus reevesi*) from North China, twelve European Tree Frogs (*Hyla arborea*), European, purchased.

OUR ASTRONOMICAL COLUMN.

HELIOMETER MEASURES OF *h* AND χ PERSEI.—The great care taken and accuracy obtained by Prof. Wilhelm Schur in his observations with the fine Repsold heliometer of the Göttingen Observatory, make one regard the publications of the "Astronomische Mittheilungen von der Königlichen Sternwarte" as so many standard illustrations of heliometer reductions. The sixth part of this publication deals with the two bright star clusters, *h* and χ, in the constellation of Perseus. Both of these clusters have been measured before, the first by Krüger with the Bonn heliometer, by Bredichin with the micrometer, and by Karl Oertel with the large München refractor; and the latter by Vogel with the Leipzig 8-inch refractor, Pihl with the micrometer, and by Lohse and Bronsky and Stebnitzky from photographs. Prof. Schur compares his results with all these previous measures.

For his triangulation, Prof. Schur has used fifteen of the brighter stars in the two clusters; no less than 61 different distances have been measured, each distance having been determined on three, but generally more occasions. We must, however, simply restrict ourselves to the result of the whole investigation, which has led Prof. Schur to give the following final places for the stars he has employed; the consecutive alphabetical letters in the first column refer to the notation he has adopted in the chart of the region accompanying this publication. In the following summary the secular variation and proper motions have been omitted, and Kr. in the fourth column refers to Krüger's magnitudes:—

Positions of 15 *Stars in the Clusters h and χ Persei for the Epoch* 1893.75, *and Equinox* 1890.0.

	B.D.	Mag.		R.A.	Precession	Declination.	Precession.
	+56°	B.D	Kr	h. m. s.	s.	° ′ ″	″
a	471	6·6	6·7	2 9 10·477	+4·1533	+56 32 35·06	+16·952
b	479	8·9	8·9	9 34·736	·1409	23 11·21	·933
c	498	8·6	8·6	10 40·779	·1628	30 0·98	·880
d	500	8·5	8·5	10 44·886	·1715	41 54·73	·877
e	530	6·7	6·4	11 30·237	·1756	39 37·93	·842
f	543	8·0	8·2	12 11·145	·1870	48 38·09	·809
g	545	8·5	8·6	12 31·519	·1803	35 29·12	·793
h	547	8·2	7·2	12 45·113	·1775	29 10·59	·782
i	555	8·8	8·4	13 26·604	·1773	21 35·55	·749
k	567	8·4	8·3	14 7·833	·1841	24 1·19	·716
l	568	6·7	6·6	14 9·189	·1985	44 17·45	·715
m	593	7·0	7·0	15 12·596	·2127	53 2·12	·663
n	595	8·5	8·3	15 24·027	·2060	41 47·75	·654
o	598	8·4	8·6	15 38·363	·1930	21 6·43	·642
p	603	9·2		2 17 4·986	+4·2125	+56 32 54·63	+16·572

This triangulation will form a fine groundwork for future photographs of the fainter stars in this region, for the constants for the reduction of the plates can be determined by the heliometer positions of the brighter stars. The great value of heliometer measures as forerunners of the photographic plate is a point that cannot be overlooked when dealing with star clusters, nebulæ immersed in stars, or *vice versâ*.

ANNUAIRE POUR 1901 BUREAU DES LONGITUDES.—This useful annual, issued under the direction of MM. Janssen, Cornu and Lœwy, is compiled in similar manner to previous issues. A complete calendar, with the usual solar and lunar data, lists of celestial phenomena for the year, comprising occultations, eclipses, maxima and minima of variable stars, elements and ephemerides of the planets, shooting stars, &c., occupy some three hundred pages. An important notice is issued stating that all the times given in the volume are expressed in *civil mean time*, reckoned from oh. to 24h., commencing at midnight.

A lengthy appendix is occupied by a dissertation on the electrical transmission of power, by M. Cornu, and other articles are contributed by M. Poincaré (Revision of the Meridian Arc of Quito); M. Lœwy (Astronomical Conference at Paris); M. Bassot (Foundation of the Metric System); M. B. de la Grye (International Geodesy), and M. Janssen (Work at the Observatory on Mont Blanc).

CATALOGUE OF STARS.—The sixth volume of the publications of the Hamburg Observatory consists of the reduced places of stars between 80° and 81° north declination, determined with the Repsold meridian circle of 10·8 cm. aperture and 1·62 metres focus. The stars are arranged in 69 zones, an index being furnished to show the various zones containing each object.

NEW MINOR PLANETS.—A telegram through Laffan's Agency from New York, dated January 1, says:—Mr. W. R. Brooks has discovered by means of photographs three new planets within one degree of Eros. The brightest is somewhat brighter than Eros.

SPAIN AND GREENWICH TIME.—After midnight of the 31st of December last, Spain began the new century by adopting officially throughout the country Greenwich time, the hours being numbered one to twenty-four.